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## **\*\*ANALYSIS OF SPINY SOFTSHELL TURTLE POPULATION STRUCTURES IN FIVE RIVER SYSTEMS IN EASTERN MONTANA (Poster)**

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The spiny softshell turtle (*Apalone spinifera*) is designated as a species of concern in the state of Montana due to a lack of knowledge regarding their conservation status, loss of habitat connectivity and anthropogenic changes in hydrology. Information on population abundance and basic population structure for this species is necessary to understand how altered hydrological regimes and catastrophic events may affect this highly aquatic species. Spiny softshell turtles were studied in five river and creek systems in southeastern Montana. Over three years a total of 553 spiny softshell turtles were captured. The proportion of females to males captured across all five systems was not significantly different between creeks and rivers, with a total of 89.69% females and 10.31% males. We developed four length / age classes (juvenile, sub-adult, reproductive adult, mature adult) based on reported age cohorts from other studies. Numbers of spiny softshell turtles in each cohort were found to be significantly different between the five systems  $p < 0.00001$ . The Musselshell and Yellowstone Rivers and Pryor Creek had evidence of juvenile age classes and a more even distribution of age classes than the other systems. The Bighorn River had mostly larger adults and the Musselshell River lacked significant numbers of mature adults. Average seasonal water temperatures, timing and magnitude of spring pulse flows, ice cover and scour in winter, and abundance of open gravel bars, should be examined as possible factors which may explain the observed differences in spiny softshell turtle demographic structures on these five systems.